The Substitute Specification reflects the text of Revised Pages 1, 2, and 2a associated with the International Preliminary Examination Report.

IN THE CLAIMS:

N/a

Without prejudice, please cancel original claims 1 to 16 in the original application and substitute claims 1 to 14 from the Revised Pages, and please add new claims 17 to 32 as follows:

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17. (New) A sensor for detecting a change in a distance between a first location and a second location, comprising:

at least one substantially helically coiled optical fiber for being mechanically connected to at least one of the first and second locations;

a light transmitter;

a detecting device for detecting optical signals and for generating an output signal dependent upon a polarization state of a first optical signal transmitted via the at least one substantially helically coiled optical fiber; and

a reference optical fiber path for simulating the at least one substantially helically coiled optical fiber and over which a second optical signal is transmittable;

wherein the first and second optical signals are detectable in one of (i) the detecting device and (ii) the detecting device and another detecting device, for determining any difference in polarization states of the first and second optical signals.

18. (New) The sensor of claim 17, wherein the detecting device is one of a polarimeter and a detector having a series-connected analyzer.

19. (New) The sensor of claim 17, wherein the at least one substantially helically coiled optical fiber is flexible in a helix direction and is for following changes in the distance between the first location and the second location.

20. (New) The sensor of claim 17, wherein the at least one substantially helically coiled optical fiber is joined to an elastic carrier material, which permits a change in form in response to mechanical loading of the at least one substantially helically coiled optical fiber,

and which retains the at least one substantially helically coiled optical fiber in an initial curved form in response to no mechanical loading.

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21. (New) The sensor of claim 17, wherein the at least one substantially helically coiled optical fiber is wound around an at least one elongated carrier element.

22. (New) The sensor of claim 17, wherein the at least one substantially helically coiled optical fiber is secured to a carrier element so that the at least one substantially helically coiled optical fiber is movable in a wound form but remains stabilized on the carrier element.

23. (New) The sensor of claim 17, wherein one winding direction predominates in the at least one substantially helically coiled optical fiber.

24. (New) The sensor of claim 17, wherein at least one of the following is satisfied: the light source produces linearly polarized light; and a linear polarizer is situated at least one of on and at an input end of the at least one substantially helically coiled optical fiber.

25. (New) A method for detecting a change in a distance between a first location and a second location, the method comprising the steps of:

mechanically coupling at least one of the first and second locations to a substantially helically coiled optical fiber;

coupling an optical signal having a known polarization state into the substantially helically coiled optical fiber;

recording the optical signal transmitted over a connecting line for acquiring information pertaining to a polarization state of the optical signal;

determining the change in the distance from the information pertaining to the polarization state of the optical signal; and

comparing the polarization state of the optical signal transmitted with at least one of another polarization state of the optical signal before its transmission and a reference polarization state.

26. (New) The method of claim 25, wherein the step of determining the change in distance includes comparing a detected signal and at least one individual parameter of the detected

signal with a value determined in a calibration measurement corresponding to a specific distance.

27. (New) The method of claim 25, wherein the step of determining the change in the distance is performed using a detected signal, at least one individual parameter of the detected signal and a form of a three-dimensional curve of the substantially helically coiled optical fiber.

28. (New) The method of claim 25, wherein the reference polarization state is a polarization state of the optical signal determined following propagation of the optical signal through a communication link in a mechanical idle state.

29. (New) The method of claim 25, wherein the optical signal and a reference signal are detected.

30. (New) The method of claim 25, further comprising the steps of:

launching a linearly polarized light into the substantially helically coiled optical fiber; and

detecting a light having a defined linear polarization.

31. (New) The sensor of claim 21, wherein the at least one elongated carrier element is at least one of a cylinder and flexible.

32. (New) The sensor of claim 17, wherein the at least one substantially helically coiled optical fiber has only one winding direction.

REMARKS

This Preliminary Amendment cancels without prejudice original claims 1 to 16 and substitute claims 1 to 14 in the underlying PCT Application No. PCT/EP99/09845, and adds without prejudice new claims 17 to 32. The new claims conform the claims to U.S. Patent and Trademark Office rules and do not add new matter to the application.

In accordance with 37 C.F.R. § 1.121(b)(3), the Substitute Specification (including the Abstract, but without the claims) contains no new matter. The amendments